

ABSTRACT OF THE DISCLOSURE

A DNA encoding a variant of a protein, the protein having a loop region and six hydrophobic helices and involved in secretion of L-lysine to the outside of a cell, wherein the DNA encodes a variant of a protein not containing the loop region and facilitates secretion of L-lysine, L-arginine or both of these L-amino acids to the outside of a cell of a methanol-assimilating bacterium when the DNA is introduced into the bacterium, specifically *lysE24*, is introduced into a *Methylobacillus* bacteria to improve L-amino acid productivity, especially L-lysine and L-arginine productivities.